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JUNE 1987

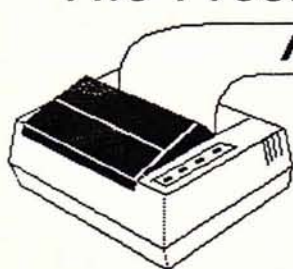
Volume 4 Number 6



Newsletter of the Combined Atari User Groups

The President's

PRINT-OUTS



I have to start out by saying how pleased I have been with the quality of the meetings so far this year. Now this may sound like I'm patting myself on the back but I'm not really if you realize that, although I suggest themes and do some coordinating, the real work

and credit) can be attributed to the efforts of our any members and the other officers of the club.

The May meeting was no exception as we were treated to some impressive music and demos of MIDI hardware and software. In particular, I'd like to extend my special thanks to Mary Gibbons for her excellent presentation on MIDI software on the Atari 130XE, to Dave Thorsen for his great ST synthesizer demonstration using the Music Studio program and a Casio CZ101, and finally to John Rojewski for his sequencer demo using a Yamaha DX100 synthesizer. There was an awful lot of fancy equipment being used that I could not possibly name but it all boiled down to some very impressive uses for the Atari computers and some very professional results. Again, thanks to these volunteers for their time, effort and their willingness to share their special talents and knowledge.

Speaking of volunteers, I'd like to get on my soapbox for a brief minute and talk one more time (but not the last time) on the topic of "you get out of a group what you are willing to put in". Actually I'm very pleased that we have such a high level of involvement in our group. The old adage about "many hands make light work" is still true. Many new members may have the mistaken notion that it is the

"old-timers" that are the leaders of this group. That is not true. Many of our most enthusiastic officers and volunteer leaders are new or recent members. You don't need to be a "computer expert" (whatever that is) to help the club in various capacities. For the last few months I've been stressing this and I have been somewhat successful in having some of you coming forward with offers to help. I think I'll try and give it a rest for awhile. One thing that would be helpful (if anyone is willing to come 30 minutes early) is some help in setting up chairs and tables. And if everyone would chip in after the meeting to help clean up, it would be greatly appreciated by all of us now doing it.

I hope everyone noticed the large number of ads in last month's newsletter (and I hope this month's as well). This is due in very large measure to the tireless efforts of Jim Ege. Jim also spends many hours each month in collating, stapling and folding the newsletters. I just wanted the membership to be aware of the tremendous effort Jim is making virtually single-handed for our club.

June's meeting promises to be another timely and interesting meeting for owners of all Atari computers and of all levels of experience. We will be featuring short demos on most of the top word processors for both 8-bit and ST computers, including Atariwriter Plus, PaperClip, Text Pro, 1st Word(ST), WordWriter(ST), and many more. Also, demos on some of the various spell checkers and other word processing "utilities" available. Of course word processing would be almost useless without a printer so we will be displaying a variety of the most popular printers including the NEC P6 24 pin printer, Okimate 10 and Quadjet color printers, and the interfaces required. In other words, if you do any kind of word processing (even if its only letters to Mom) you should attend this meeting to view first hand the best of the word processors and printers available for your computer. And, almost as important, talk to the people best equipped to answer your questions...not salesmen but experienced users. See you there!



NYBBLES & BYTES

This newsletter is written and published monthly by the North West Phoenix Atari Connection (NWPAC) and the SouthEast Valley Atari Connection (SEVAC).

Both groups are non-profit organizations devoted to the exchange of information concerning all Atari computers. Neither NWPAC or SEVAC are affiliated with Atari Inc.

NYBBLES & BYTES welcomes contributions of articles, reviews, and other material related to Atari computer products. Material to be submitted should be uploaded to the club BBS under the heading of "NEWSLETTER". See instructions below. If you do not have access to the BBS, call the editor to make other arrangements.

Permission to reprint articles in any non-commercial publication is permitted, provided proper credit is given to NWPAC and the author.

Deadline for copy to be included in the following month's issue is the 15th day of each month.

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ADVERTISING RATES

ADS: Classified ads of a non-commercial nature are free to all current members. Commercial rates are:

Full Page \$30.00

Half Page \$20.00

Quarter Page \$10.00

CLUB BBS P.A.U.G.S. (Phoenix Atari User Groups)

NWPAC and SEVAC provide a BBS system for its members at 242-4259. The system is operated 24 hours a day, 7 days a week. BBS usage is restricted to club members or on an exchange basis with other user groups. For additional information, call either Bill Smith at 934-9935.

UPLOADING ARTICLES

All text should be in ASCII format. 1st word is suggested for the ST's with the WP mode off. Atari Writer is suggested for the 8-bits.

Pictures, illustrations, etc, can be in either KOALA, NEOCHROME, DEGAS, or TINY format, in any resolution. However, keep in mind that as this publication is in black & white, certain color pictures will lose clarity in translation. High resolution will look the best.

NWPAC

NORTHWEST PHOENIX ATARI CONNECTION

WORD PROCESSING HANDS-ON TUTORIALS

Don't miss the June meeting of NWPAC Saturday 13 June 1987 at Faith United Methodist Church, 8640 N. 19th Ave., Phx. See and use the "TOP TEN" in ST and 8-Bit Word Processing software. Learn from the "experts" how you can control the software. Find out about those special features that sold you but you can't make work. There will be a minimum of four ST and four 8-bit systems up and running. You will not only be able to see the different types of word processors, but complete W.P. systems that you will get to "use".

President Steve Marshall will coordinate the STs and Joe Krysa will demo the 8-bits.

COMPUTERS: 1040STs, 520STs, 130XEs, 800XLs, 48K 800, 32K 400.

DISK DRIVES: Atari 810, 810 c/ CHIP, 810 c/ U.S. Doubler, 810 Happy, 810 /c Duplicator; Atari 1050, 1050 Happy, 1050 /c U.S. Doubler, 1050 /c Duplicator. Rana 1000s, Percom Data, Indus GT, Astra, Atari SF315 and SF 354.

MIO: Atari, Supra or Haba Hard disks.

CASSETTES Atari 410, 1010.

PRINTERS: Thermal, Dot Matrix, NLQ, Heat Transfer, Color, 9 & 24 pin, Atari, Okidata, Star, Okimate 10/20 Color, Seikosha, Epson, Panasonic, Alphacom 40/80s, Comrex. If you want to know more about W.P., how to use your own W.P., or just see what's available and what you can do with it.

SOFTWARE

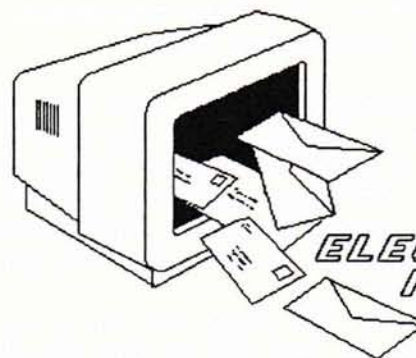
ST and 8-Bit

Paperclip* (Spellchecker, "Elite")* Thunder* 1st Word, HomePak* HabaWriter* AtariWriter Cart* Word Perfect Cart* Atari Writer Plus including 130XE version* Text Wizard* COMPUTES "SPEED Script, Calc -n- Script80 (80Cols on 8-bit* Text-Pro with

12 HELP KEY Docs* To name a few.

Bring your own W.P. software too. Boot it up and share it with us plus you can always collar one of the "EXPERTS" to help! Bring your non-Atarians friends also. Many of these programs are for other computers also and similar enough to help them as well. Anyway, can you think of a better way to get your "best friend" to see what an Atari "really" is/does/can do.

See you there!



**ELECTRONIC
MAILBAG**

HELP!! Have the following Atari 800 programs, but need the instructions for them, Does anybody have an extra copy or a sheet I can borrow to copy?

Asteroids, Caverns of Mars,
Congo Bongo, Centipede,
Dig Dug, Eastern Front,
Galaxian, Gorf, Joust,
3D Tic-Tac-Toe,
Music Composer, Ms Pac Man,
Pengo, Pilot, Bobotron, Qix,
Space Invaders, Super Breakout.

Call John Draftz at 942-3457 or
mail to:

1507 W. Willow Av, Phx 85029

P A U G S . B B S E X P R E S S

Tutorials By Joe Krysa

- [1] Main Commands
- [2] Message Base Commands
- [3] Message Editor Commands

Main Command Tutorial

Following is a short tutorial on the different commands of P.A.U.G.S. This file covers commands available from the main "Command:" prompt.

A The A command allows you to toggle between ATASCII/ASCII mode. Normally, you will never use this command, since your translation is set at logon time.

B The B command is used for Browsing the files that are available for downloading by you. For each file, you will be shown:

- * The file's name
- * The size of the file is single density sectors.
- * The format of the file (ie: Object module, Text, BASIC, etc.)
- * The type of file it is (ie: Communications, Games, Home Application, etc.)

C The C command is used when you want to Call for the sysop of this board. If the sysop is around, he will be paged with a few beeps on the speaker. *PAUGS does not have a speaker*, so this will only work if the sysop happens to be looking at the monitor at the same time you use the C command.

If you call for the sysop and he is not around to answer, he will still be able to tell that you paged him if he returns. The printer makes a record of this.

D Use the D command to Download a file from the download section. You will be asked for the name of the file, and will then be told the size of the file in single density sectors. After that, you will be asked if you want to download with XModem protocol. The only time you would answer NO to this prompt is if you were preparing to download a Text file, and you just wanted to "capture" it to your terminal program's buffer.

F Use the F command if you want to leave a message to the sysop of this board. You will be placed into the message editor where you can compose your message to the sysop.

G Use the G command to log off of the system. This is the *ONLY* proper way to leave the system. If you terminate any other way; don't worry; PAUGS won't (normally) stroke out. We just loose HARD copy until PAUGS resets and is ready for the next call. If you are fast enough when you loose the carrier, often you can recall and continue were you left off. Also if someone happens to call at the time you log off incorrectly; PAUGS recognizes the caller as you. So they have access to your profile and password. *Need I say more!*

I The I command will tell you a little about this BBS system's hardware and software.

L Use the L command to enter into the Library section of the BBS. The library is a collection of various text files that you can browse. You will be shown a list of the current topics, and be asked to choose one.

M The M command will display the names of all of the users that are currently a member of this BBS, along with where they are from and the last date that they called this BBS.

N The N command will allow you to re-read the System News file in case you missed it at log on time.

O The O command will show you a list of other known operating Bulletin Board Systems.

Q The Q command will scan thru all the sub-boards and show you all the new messages.

R Use the R command to check and see if there is any mail on the system to you. This command should be rarely used, since the system checks for your mail when you initially log on.

S Use the S command to Send mail to another user on this BBS. You will be asked for the name of the user you want to send a letter to. At that point, the user log will be searched to validate that the user does exist.

T The T command can be used to re-view the log on "title" screen.

U Use the U command to Upload a file to this BBS. You can *ONLY* upload with XModem

(or AModem) protocol. You will be asked 4 questions

- * The NAME of the file.
- * The SIZE of the file in single density sectors.
- * The FORMAT of the file.
- * The TYPE of the file.

REMOVE ANY FILE EXTENDERS before you UpLoad any File The file extenders must be removed because the EXPRESS program has certain file extenders much the same as certain BASIC phrases are reserved, in ROM. If you leave an extender on that happens to be reserved, there's no telling what P.A.U.G.S. will do with your UpLoad.

REMOVE ANY CONTROL CODES that your word Processing Program has "ON the SCREEN"

A good rule is "If you can see it; remove it" If you do this prior to the Original Save you won't have to worry about it while ONLINE. I have also been told by those that know. Cntrl. S prior to using Atari Writer + will remove unwanted codes.

Y. The Y command will show you all of your statistics for this board. You will be shown data such as how many calls you have made, your time limit, etc.

/ Use the / command if you want to clear the screen.

* The * command will show you a list of all of the different sub-boards (BASES) on this BBS system, and the topic that each covers.

= Use the = command to enter a sub-board (BASE), where you can read and enter messages.

MESSAGE BASE COMMANDS

This section covers commands available from the the Sub-Board prompt. Before covering these commands, I should point out here the data that the prompt itself gives you. Here is a typical sub-board prompt and the data that it is showing:

[1/47] General: > The name of the sub-board that you are currently on > There are 47 messages on this sub-board (so, the valid message numbers are 1-47) > You are currently on board # 1

Now, let's cover the commands:

N We will start with what I consider the MOST important, which is the "N"ew command. BBS Express! will "remember" what messages you have and haven't read (so you don't have to). The "N" command simply tells the BBS "OK -- show me the messages that have been posted on this sub-board since the last time I logged on". This will (and SHOULD) be the read command that you use about 99% of the time.

B Use the B command to read backward through the messages on this sub-board.

F Use the F command to read forward through the messages on this sub-board.

R Use the R command to read an individual message on this sub-board.

P The P command allows you to post (write) a message on this sub-board. You will be asked for a title for your message, and will then be placed into the message editor.

D Use the D command if you want to delete a message that you had previously written.

T Use the T command to see a list of the titles of the messages on this sub-board. You will be asked for a starting message number, and then if you want to see the name of each message's author.

* The * command will show you a list of the different sub-boards on this BBS system.

= Use the = command to leave the current sub-board and go to another one.

MESSAGE EDITOR COMMANDS

This covers commands available while in the message editor. The message editor of BBS: Express! is unlike any that you have ever seen on an Atari system. To enter the "Edit" mode, you must hit the slash (/) key while in the first position of a line (ala VisiCalc). While in the first position of a line, you can also enter a '?', which will show you the number of the line that you are currently on, as well as how much space you have left in this message. Another important note here is that while editing your message, you will see lots of prompts with numbers in brackets, as

in:(E>List (1-30) From [1]: Now, the numbers in parenthesis are the valid line numbers for the current message. The number in brackets is the value that will be taken IF YOU JUST HIT THE RETURN KEY (ie: the "default" value taken). Also, I should point out that there is a 256-byte "input buffer" in BBS:Express! So what, you say? Well, the most notable improvement because of this is that you can send text from your buffer to the message editor WITH ABSOLUTELY NO DELAY RATE. The editor can keep up with it! Also, if you are in "standard" mode (not in Graphics mode -- see below), then the Shift/Delete key will delete WORDS, not lines.

In other words, let's say that you made the following keying error: Now is the time for all good Oops! Had a little problem there. No big deal! Just hit Shift/Delete and the word will be erased, and the cursor will be where the "g" was. Now, the commands:

L The L command will List the lines in your message. You will be asked for a beginning and ending line number (or, just hit RETURN, RETURN to list the entire message).

N The N command performs like the L command above, but lists the lines WITH LINE NUMBERS. This is particularly helpful before Edit or Delete commands.

F The F command will display your message to you EXACTLY as it will appear on the BBS after you save it.

S Use the S command to Save the message that you are writing.

P The P command is another very powerful command. Since the BBS:Express! editor will ACCEPT more data than it will allow to be SAVED, this command can be used to "continue over" into the next message. If you ever get the message "Max Exceeded!" while writing a message, you should use this command. Here is what will happen:

- The message will be posted (up to where you overflowed the editor).
- A "Continued Next Message" will be placed in the posted message.
- The lines saved will be deleted from the message editor buffer.
- You can now continue on writing your message!

A The A command is used to Abort out of

the current message. You will be asked to confirm.

D Use the D command to Delete lines from your message. You will be asked for a beginning and ending line number. This delete is INCLUSIVE. In other words, if you say to delete 5 thru 8, then lines 5,6,7 18 will be deleted.

E Use the E command to edit an individual line. You will be shown the old line, and then you can key in the replacement for this line.

I Use the I command to insert a new line between two existing lines. You will be asked for the line number that you want to insert before.

M Use the M command to set a left margin in your message. This is useful if you are getting ready to indent blocks of text (like this help file). Really, when you tell the editor a left margin, you are just saying "Put <x> number of spaces in front of my input line". Left margin setting has no effect on word wrap.

G Use the G command to enter Graphics mode. In this mode, each key that you press is taken verbatim. But, you will lose some of the special editor features (see below). You can toggle Graphics mode on/off at will with no limits.

W Use the W command to toggle word wrap on and off. Note: word wrap is NOT active if you are in Graphics mode.

Q Use the Q command to see the current settings of: Word wrap
Left Margin
Graphics Mode

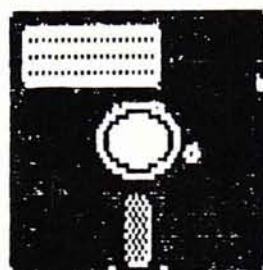
R The R command will Repeat the last line again (the one above the current line).

/ Use the / command to clear the screen. Useful before listing lines.

***A special thanks to Bob-n-Doug aka Joy Orton, The guiding hand of GWN BBS. Great White North.



SOFTWARE
954-SOFT

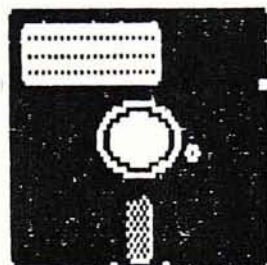


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4001 E. THOMAS

The Programming Zone

FUN WITH RAINBOWS

by: Larry Nocella

Reprinted from 'BETWEEN BYTES', Vol. 4,
No. 12 - Dec. 1986

Respectfully submitted by Paul O. Parks

I've always loved that "rainbow effect". Those demos that show off all the Atari's colors. You know, those scrolling colors. Anyway, to get this effect, you need machine language speed and efficiency, so it's impossible to use in BASIC without a USR call. But now you can! (You knew that was coming!). And you can control which color register will be "rainbow-ized".

Take Listing 1, and type it in. Make sure that data is correct! Then RUN it. The background to your text screen should become a scrolling rainbow!. To stop the flowing colors, push START. Back to the normal drab blue screen. If you like this effect and want to use it in your own programs, read on.

The main part of the program is the machine codes (those numbers in the DATA statements - line 90) and the USR call in line 70.

Listing 2 (which wasn't listed - pop N.W.P.A.C.) is the disassembled listing of those machine codes in Mac 65 format (I have included a dis-assembly listing) is for reference, you don't have to type it in to use the BASIC program. The DATA statements in line 90 shouldn't be changed because the system may lock up. The USR statement format looks like this: 70 A=USR(1664,X) The X tells the computer which color register to change into a rainbow until START is pushed. "Player" is for player missile graphics colors. "Playfield" is the colors used to draw on graphic screens and such. Here's the numbers to use:

- 0 = Player 0
- 1 = Player 1
- 2 = Player 2
- 3 = Player 3
- 4 = Playfield 0
- 5 = Playfield 1
- 6 = Playfield 2 (screen color)
- 7 = Playfield 3
- 8 = Playfield 4 (background)

You can change the line numbers and

where the routine is in your program, as long as the USR statement keeps the same format and the DATA statements are the same. Have fun with rainbows!

Listing One

```
10 REM == RAINBOW (in BASIC) ==
20 REM == by: Larry Nocella ==
30 REM -- (RAINBOW.BAS) --
40 CT=0:X=8:REM ** background **
50 CT=CT+1:READ Q:IF Q=-1 THEN 70
60 POKE 1663+CT,Q:GOTO 50
70 Z=USR(1664,X)
80 END
90 DATA 104,104,104,168,232,142,10,212,
138,153,18,208,169,6,205,31,208,208,241,
96,-1
100 REM
110 REM VALUES FOR X:
120 REM (0 thru 3) = PMG's 0,1,2,3
130 REM (4 thru 8) = Colors 0,1,2,3,4
140 REM > PUSH START TO EXIT <
150 REM
```

Note: The following lines and modifications will make the programs relocateable: (pop)

```
30 DIM X$(30)
40 CT=0:X=8:REM ** BACKGROUND **
50 CT=CT+1:READ Q:IF Q=-1 THEN 70
60 X$(CT,CT)=CHR$(Q):GOTO 50
70 Z=USR(ADR(X$),X)
80 END
90 DATA 104,104,104,168,232,142,10,212,
138,153,18,208,169,6,205,31,208,208,241,
96,-1
```

Listing Two

```
10 PLA
20 PLA
30 PLA
40 TAY
50 LOOP
60 INX
70 STX $D40A
80 TXA
90 STA $D012,Y
100 LDA #$06
110 CMP $D01F
120 BNE LOOP
130 RTS
```

The Public Domain
Library
(8-bit Version)
Paul O. Parks

Apparently there has been some comments, especially among new members and Atari users, about how there are some programs in the P.D. library that cannot be loaded. Also, there seems to be some confusion as to the meaning of the file name extenders. The purpose of the column will be to explain the bulk of these two concerns. Before I forget

it, let me say that sometime in the next couple of months or so I intend to develop a disk for new members/users. In essence, it will be designed to show of the 8-bit capabilities as well as re-iterate some of the material that will be discussed here. On with the column.

All disks in the 8-bit P.D. library have files and programs on both sides of the disk. By looking at the directory listing you get an idea of how much data is on the disk.

This data may be programs, data for programs, documentation, Disk Operating System (aka DOS), re-defined character sets, etc. However, unless you have some experience or access to someone who does, there is no way to really know what you have. The printed 'catalogue' that is available each month at the meetings will help some because the disks are usually identified as to the bulk of their content (i.e. Games, Music, Utilities, etc.). At best, this information is still rudimentary. Many of the files have what is referred to as an 'extender'. These are 1 to 3 characters at the end of the file name (i.e., PROGRAM.EXT). This extender is often used to further designate the type of file on the disk. While each person may have their own unique way of using extenders, there has been a certain amount of standardization among users. Keep in mind that if a file name has no extender and if the name does not indicate its nature, you'll just have to experiment or get some help to determine what the file is all about.

.BAS/.SAV/.LST/.BXL/.BXE/.TUR

These extenders normally indicate the file is a BASIC(language) program. These programs are normally 'LOADED' and 'RUN' or just 'RUN'. The one exception is ".LST". Programs with this extension have to be 'ENTERED' and then 'RUN'. The formats are as follows:

```
LOAD "D:PROGRAM.EXT"
then RUN
or RUN "D:PROGRAM.EXT"
```

For programs with .LST extenders:

```
ENTER "D:PROGRAM.LST"
then RUN
```

.BAS and .SAV usually refer to programs written in Atari BASIC and then 'SAVED' where .LST usually means they were 'LISTED'.

.BXL refers to BASIC XL and .BXE refers to BASIC XE, both of which are products of O.S.S.

.TUR refers to programs written in TurboBasic which is in the Public Domain. Most programs with .BAS, .SAV and .LST extenders can be 'RUN' with other versions of Atari compatible BASICs. However, programs with extenders of .BXL, .BXE, and .TUR will likely not execute properly with standard Atari BASIC. This is due to an expanded command set which Atari BASIC cannot understand.

.OBJ/.BIN/.EXE/.RUN

These extenders are normally given to files that cannot run with cartridge or language installed in the system. This means that for owners of the 800 XLs and 130 XEs, it will be necessary to hold down the OPTION key when powering up (booting up) the system. These are programs that have been either compiled or assembled into a form that is only understood by the computer. The disk may have what is called a binary loader (which may or may not be a part of the directory). If the DOS menu comes up, you

must use the 'L' option to run one of these programs. Again, for those of you who own 800 XLs or 130 XEs the use of a translator may be required (If you don't have one, there is one in the P.D. library - disk #206). It is a binary disk so be sure to hold down the OPTION key when booting it in.

.M65/.MAC/.ASM

These are usually programs written in assembly language (MAC65 by O.S.S., Atari MACRO Assembler, and the Atari Editor Assembly cartridge. Before they can be run they must first be 'assembled'. This requires some knowledge of assembly language and access to the appropriate assembler. These files are also known as source code or source programs whereas the assembled program is referred to as assembled or binary code or programs.

.ACT

This file was written and compiled using the ACTION! language by O.S.S.

.TXT/.DOC/.ATW/.PPC

Files with these extenders are usually referred to as 'Text Files'. Most of these files are some form of documentation or the result of a word-processing program. Sometimes the extender reflects the word processor used (i.e., .ATW = AtariWriter, .PPC = PaPerClip).

.AMS/.MUS

These extenders denote a music program data file. .AMS usually means the file is in the A.M.S. program format (A.M.S. = Advanced Music System).

.FNT/.DAT

These extenders are also indicators of data files with the .FNT reflecting that the file is a FONT file for modifying the Atari character set..

.DEM/.DMO

Indicates a program that was designed to be used for a demonstration. It may have been written in any Atari compatible language.

.SYS/.ARx/.COM

These extenders denote files that are usually used at the time the system is being powered up. The x in ARx is normally a number between 1 and 9 and used by SmartDos to cause automatic execution at time of boot-up. This is the same type of occurrence with a file named 'AUTORUN.SYS'. The .COM extender is used by some DOSs to further establish the system at time of boot-up. Most routines that provide for a RAM disk are denoted with a .COM extender.

Well, that's about it. I realize that this information is not all inclusive but will hopefully serve to answer some questions and maybe even create some others. I would appreciate some feedback so that I can include important points in the disk that I mentioned earlier that may have been left out here. Also, If there are any comments made here that need to be clarified I would like that also brought to my attention.

SEVAC

SOUTHEAST VALLEY ATARI CONNECTION

SEVAC SECONDS

By Tim Barr

Well, I finally made a deadline, for once! I'm sorry it took so long, but a combination of factors had kept me from writing this article for the last four months, or so. My ST 'home-grown' system is back together again, and finally running like a champ! It seems that the hard disk controller card (an Adaptec 4070A) that I am using puts out a lot of interference (EMI, RFI, 'hash', or whatever you want to call it), and was scrambling data on the outer tracks of my hard disk. I had to re-build my enclosure, and trade the 4070 controller for 4000A, to solve that problem. And so I went ahead and upgraded my floppy drive to a double-sided model.

There are some companies that have been advertising 3 1/2" double-sided floppies to hook up to an IBM-compatible (yuck!) system, for about \$140, so I thought I would try to connect one up (it is a LOT easier backing up a hard disk with double-sided floppies!). The DS floppy drive almost worked, straight out of the box. The signal and power connectors are the same, and the drive will read disks without any problems. BUT, it would not write data at all. After a little bit of testing, and looking at a schematic of the ST, I finally found the problem. The way that disk drives are connected, in many computer systems, is that the signal lines are 'daisy-chained' from one drive to the next. At least one drive in the 'daisy-chain' needs to have the signal lines terminated, to the power supply, so that the signal lines will pull enough current to run the disk drives properly. The disk drive that I bought was designed to plug into an IBM compatible (blah!) with little or no changes made to the computer system. Since the drive already installed, in the computer, was terminated, the 3 1/2" drive didn't need to be. But, since I was installing it into the ST as the only drive, I needed to terminate at least one of the signal lines (pin 22, WRITE DATA [Atari ST pin 11]). Other than that little problem, the new disk drive works like a charm.

I would like to thank Jon Johnson for putting together the MIDI demo for the May meeting. If we could only get some more member participation, our meetings could be more interesting and informative. The club officers can only do so much, and can't buy and become familiar with every piece of software on the market. Also, by the time you read this article, a decision will have been made on whether to change to a new location for the club meetings. Marc Dyer, a member of our club, is the manager of a business

complex in the area of Southern and 48th St. in Tempe. He has offered to make a room in the complex available for club meeting, at no charge. A vote will have been taken at the May meeting with regard to this question.

Well, thats all I have for you for this month. The June meeting will be on the 20th, check the May minutes for the location and time!!

Nibbles & Bytes BBS list

(Updated on May 21, 1987)

Phoenix area Atari BBSs

NAME	HRS	NUMBER	TYPE
MAGRATHEA	24	833-9216	8
PAUGS	24	242-4259	8
GALACTICA	24	997-6786	8
LONE RAIDER	24	998-4043	8
XANADU (300 BD)	24	272-7657	8
THE SHOE DEPT.	24	991-4690	8
GREAT WHITE NORTH	24	482-6643	8
THE PLANET IRATA	24	273-7688	8
PHASE COMPUTING ST	24	849-1287	S
C & PLAY FIDO	24	245-9475	O
BOBS ANSW MACHINE	24	242-3158	O

Type Legend:

8 - Atari 8-bit computer

S - Atari ST computer

O - Other computer type with Atari file areas

NATIONAL ATARI BBSs

NAME	HRS	NUMBER
ATARI CORP #1	24	408-745-5308 §
ATARI CORP #2	24	408-745-5970 §
ATARI CORP #3	24	408-745-2642 §
ATARI CORP #4	24	408-745-4758 §
ATARI CORP #5	24	408-745-5664 §
I.C.D. BBS	24	815-968-2229
O.S.S.	24	408-446-3451 §
XANTH #1	24	206-682-8039 §
XANTH #2	24	206-823-9707 §

§ - Accessible through PC Pursuit (Information BBS at 800-835-3001)

For any updates or additions, leave E-MAIL to LEE WHITESIDE on PAUGS or Feedback to SYSOP on Magrathea.

COMMUNICATIONS CORNER

by Lee Whiteside

Starting with this month's issue of Nibbles & Bytes we will be having an up-to-date list of the Phoenix area Atari oriented Bulletin Board Systems. As the people who use their modems quite a bit know, keeping an accurate BBS list is not an easy task. To help keep this list as accurate as possible, please give me any updates or additions via the club BBS in E-mail or as Feedback to the SYSOP on Magrathea. Bulletin boards come and go with great frequency and even long-time ones may go down for short periods of time due to various circumstances. With summer approaching, many new ones will probably spring up with the schools out for the summer. Also, some boards may go down temporarily for vacations (which Magrathea will do a few times). The best way to know about these types of changes is to read the System Bulletin you usually get when you first log on. With the new ATARI SX212 1200 baud modems about to become available, there will be many novices out there. Here's some tips for those of you who may have just gotten your first modem.

1. When you first log onto a BBS, you have to enter in your name (or an alias) and enter a password or have one assigned to you. Most BBS programs allow you to choose your own password, but some (like BBS

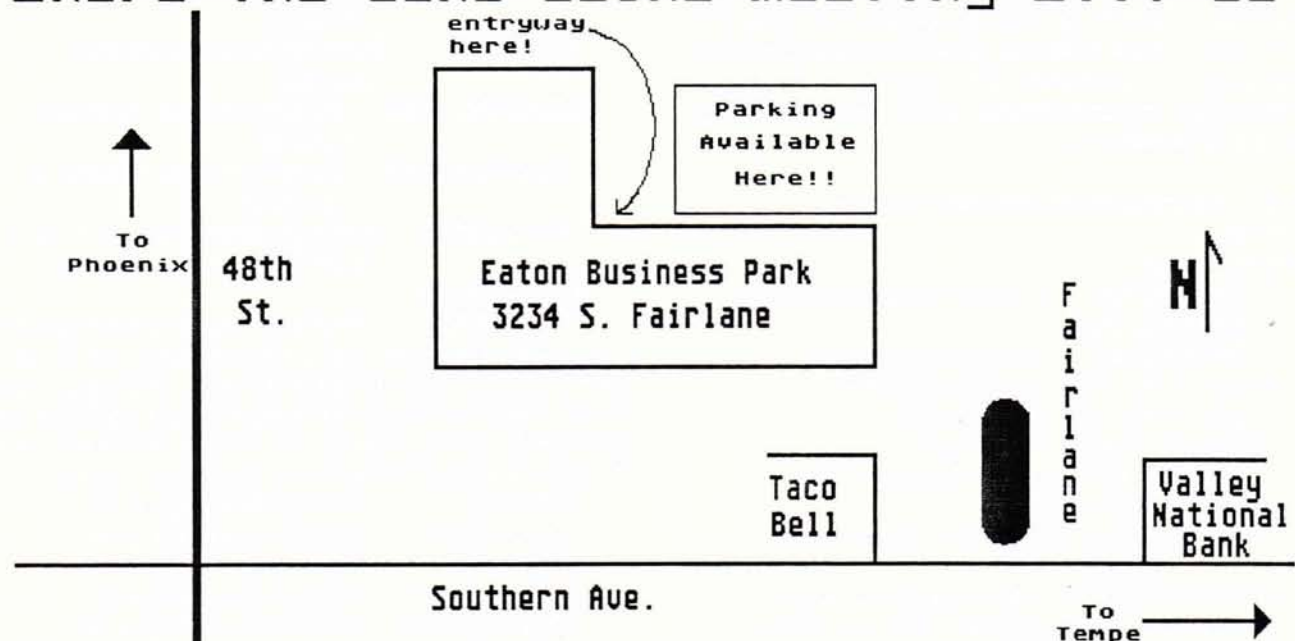
Express on the club BBS) generate a password for you. The generated ones are usually not easy to remember, so it is important that you write it down.

2. Most BBSes do not give you full access when you first log on. This restricts access for new users, so don't expect to be able to do everything the first time you log on. It is important that you leave the requested information to the SYSOP (SYStem OPERator). In many cases, a new user is not flagged and the best way to get noticed is to let the SYSOP know you are there.

3. With the different types of BBS programs out there, it is very helpful to capture the menu of each board you frequent and print it out for reference. Some boards have tutorial text files you can capture or download also.

4. If you find a bulletin going by too fast for you to read, most programs recognize a Control-S as a way to suspend the text. A Control-Q will usually continue. If it is going by too slow (or you've already read it), a Control-C usually aborts the text. Some BBS programs use different commands, so if these don't work, check the help files.

Where the June SEVAC Meeting Will Be



This Drawing is NOT to Scale. (I never said I was an Artist)

STACK

ST ARIZONA COMPUTER KNOWLEDGE

ST ARCHIVES

by Marvin Munford

We currently (as of the May meeting) have an additional disk (#37- Games 5). It has a very good Monopoly game, as well as a good version of Yatzee. Both of these games are written in GFA basic. I will tell you one thing, these games have convinced me to trade in my ST Basic in favor of the GFA basic.

I am currently working on a software library exchange with some other user groups. This should build up the library tremendously (my goal is to have 80+ disks by the end of the year). However, by the next meeting, We will have the additional disks available:

- Disk #38- Games VI
- Disk #39- Eamon Adventure Set
- Disk #40- Utilities V
- Disk #41- Demos (A good demo of Goldrunner game included)
- Disk #42- Utilities VI

Also: St Applications- March, April, May 1987 (and schedule permitting, June 87). Now to this month's article....

In keeping with my promise to the readers out there, I am beginning with this issue to give a brief synopsis of each of the programs in the ST ARCHIVES. I hope that this series of articles will be beneficial to current ST users and those contemplating the purchase of an ST. Guess I should begin at the beginning....

Disk 01. Monochrome and MIDI Demos

Contents:

Demo Folder:

- GEMDEM.PRГ - A series of graphics demos in Modula-2, also
- GEMDEM.RSC includes the required resource file. This program includes:
 - Fractal Tree- very nice pattern
 - Sierpinski Curve- very artistic
 - Diamonds- similar to the Sierpinski curve
 - Cube- revolving 3-d cube
 - Lines- animated 'string' art. Very nice and VERY FAST!

MONODEMO.PRГ - Atari animated demo. Don't know how to describe this one. Similar to an animated 'worms' demo I had seen on the Amiga, but this is in mono-chrome. One of my favorites.

SURFACE.PRГ - Graphics demo. Draws complex shapes with patterns and curved lines. Anyone remember the 'Hat' originally done on the Pet? It took 6 hours for my 800 to complete this one, minutes for the ST to do the same.

VDISHOW.PRГ - Test many variations of characters, sizes and forms, mouses and background. Click in the box, the VDI parameters is displaying and the effect is shown on the upper window.

Midi Folder:

MIDISHOW.PRГ - Plays the following *.SNG files through a MIDI instrument. You MUST have a compatible player to use this, such as a Casio CZ-101.

4TH.BLK - File required by the MIDISHOW.PRГ

4TH.IMG - File required by the MIDISHOW.PRГ

BANJO.SNG - Song file for the midiplayer program

EVITA.SNG - Song file for the midiplayer program

MINUET.SNG - Song file for the midiplayer program

MUSETTE.SNG - Song file for the midiplayer program

SANJOSE.SNG - Song file for the midiplayer program

CLEM.SNG - Song file for the midiplayer program

MOSCOW.SNG - Song file for the midiplayer program

SANFRAN.SNG - Song file for the midiplayer program

SILENT.BAS - Basic program that plays Silent Night through the Midi port

Monopix Folder:

SLIDE.PRГ - Displays monochrome picture files. A good program, but it will not allow you to set speed or allow you to cancel without resetting. If you run the slideshow from the hard disk, the pictures will most likely run too fast to see. Picture files must be in the same directory level as the slideshow program.

BUGS.PIC - Monochrome picture file

GEOLAN.PIC - Monochrome picture file

GRID2.PIC - Monochrome picture file

FOURSUM.PIC - Monochrome picture file

GREETING.PIC - Monochrome picture file

JACK.PIC - (Guess who)

Well, that does it for this month. Hope to see you all at the June meeting.

A Shoppers Guide to ST Software

How to Select the Best the ST Has to Offer

by Buddy Hammerton, A.C.E

Now that the trickle of ST productivity software has become a torrent, you probably feel flooded by promises from the dozens of programs on computer store shelves. As a consumer, your job is to sift through them and find the right data base, graphics, or financial-modeling solution to all your troubles. The question has changed from "Where is the ST software?" to "Which program should I buy?"

But ST software is often much more difficult to evaluate than software for other computers. To be truly productive, programs must not only produce the desired results, they must also be well integrated into the ST's GEM operating environment. By paying close attention to the details, you'll be able to distinguish useful tools from useless toys. Four key elements you should examine in a new program are: 1) how it adheres to ST editing conventions, 2) how mouse and keyboard movements flow together, 3) what shortcuts are provided for experienced users, and 4) how it reduces repetitive typing and having to remember all kinds of esoteric commands and procedures.

Editing Conventions

Conventions for editing, deleting and inserting text are built into the ST operating system. Editing procedures, such as backspacing, deleting, inserting, should be consistent from program to program. Whether the software is a word processor, a spreadsheet, or a graphics program, you should have the same text editing features available.

Here's an editing features test to try out in the store, before you purchase new software:

1. Place the text cursor anywhere in a word and press the Backspace key. The letter to the left of the cursor should disappear, and the word should close up around that space.
2. Place the text cursor anywhere in another word and press the Delete key. The letter under the cursor should disappear, and the word should close up around that space.
3. The Insert key should insert blank spaces under the text cursor. The letters to the right of the cursor should all shift to the right.
4. You should be able to restore the original word by using the Undo key or from a command in the Edit drop-down

menu.

5. Finally, select a word by moving the mouse pointer to the beginning of the word, and while holding down the left mouse button, move to the end of the word and release the button.

A program that passes this minimum test has editing commands consistent with programs like 1st Word, ST Basic, and others already on the market. But as we will see later, if a program features logical and practical extensions of these commands, you should study them closely to see if they make sense to you.

Mouse and Keyboard Work Flow

Evaluating new software based on how well the mouse and the keyboard work together may take some diligence, depending on the complexity of the program. The idea is to avoid hopping from the keyboard to the mouse and back again for frequently used operations. Instead, you should look for programs that use either a sequence of mouse maneuvers or a sequence of keyboard maneuvers for often-performed procedures.

Perhaps one of the worst instances of mouse-and-keyboard gymnastics occurs in 1st Word. The program places inordinate demands on your hands when you are editing text, as many of the commands are only available through the drop-down menus. There is no way around this problem in 1st Word, but programs in other categories avoid such keyboard-and-mouse games.

My favorite programs are those that work almost entirely in a single entry mode, such as Flash! Except for entering text there is no practical need for the hand operating the mouse to move to the keyboard. Occasionally you still need to press the Alternate key in conjunction with other keys, but for the most part all commands are accessible with the mouse and/or keyboard.

Keyboard Command Shortcuts

Another point to check in a new program is whether it contains keyboard alternatives to the commands in the drop-down menus.

Except for Cut, Copy, Paste, and Undo, keyboard commands are rarely consistent from one program to the next. One programmer's name for a particular function may be different than another's. In some cases, the programmer will chose mnemonic keys - the command letter being the first letter of the keyword, and others use keys in alphabetical order. While I am more likely to remember the mnemonics, I could soon memorize the other commands if I used the program enough.

Do not feel pressured to master keyboard commands immediately. Once you have established a work pattern with a program, keep a lookout on the menus for keyboard commands. Slowly work the keyboard commands into your work habits, provided they improve your productivity. The goal, after all, is to accomplish more work in less time.

Minimum Typing Requirement

When you are working feverishly on a particular project, your train of thought is often interrupted with file-maintenance chores, such as saving your work every 15 minutes. A useful software feature is one that spares you from recalling the document name and retyping it at each save. The in-store test on a program, should go something like this:

- Start up the program and enter data (numbers in a spreadsheet, words in a word processing program, or a data entry form in a data base program).
- Choose the Save as... command.
- Assign a document name (your name or "test," for example) and save the document.
- Make one more entry or edit something in the document currently on the screen.
- Again issue the Save As... command.
- The dialog box should appear with your original file name. If so, the program passes the minimum typing test.
- Try to rename the program by first pressing the Escape key then typing a new name. If the old one disappears and the new letters you type appear in the box, the program will probably pass the editing conventions test as well.

Minimum Human Memory Requirement

As long as your using your ST's powers to help reduce your typing, you should expect the ST to help you rely less on your memory. Document names are pieces of information that a program should keep track of for you.

ST software from Atari does a good job of keeping track of document names. When you choose the Open... command from the File menu (from within a program), a dialog box appears on the screen, with a directory of documents that can be opened from the program. To open a document, you just scroll the name into the window and double-click the pointer over it. (You can also select the name and click the OK box, but that takes more mouse movements than necessary.) Be on the lookout for sloppy programming in regards to dialog boxes.

Figure 1 Other Evaluation Tips

Beyond the special requirements for ST software, there are other principles to follow when shopping for software, regardless of the computer or program category. Of particular importance is the software's documentation.

It is difficult to judge a program manual while thumbing through it in a store. On quick perusal, a manual may seem to have everything a good manual should have: screen illustrations, a lengthy reference section for experienced users, and an index. But when a beginner tries to learn to use the program from the manual, there may be gaps and incomplete descriptions of key points. The way to avoid hardships is to pick a particular command and read the entire text from the manual, this way you will be able to tell if the documentation is understandable.

One thing you should search for in the documentation (or on the program disk) is a separate tutorial. The tutorial should not only lead you step-by-step through the basic operation of the program, but should also provide a real-world example. I understand a program much more quickly when I see precisely how the program works with examples of the kind of work I do.

Another thing to consider when you shop for software is the intuitiveness of the program's operation. Most people want to be able to sit down, turn on the computer, and start using the program without ever opening the manual. If you are familiar with the general category into which the program falls - financial modeling, word processing, data base, or graphics - a truly intuitive program should provide enough information on the screen and in the drop-down menus to lead you right away through a simple application of the program.

When you first try a program, take a moment to look at the opening screen to make sure the visual environment suits the work you intend to do. Next, drop down each menu and study the options. Are they grouped logically according to the name of the menu? Do the options make sense to you in the context of the program? Are they right for the application? Or are they ambiguous?

Select menu items followed by dots (such as Save as..., Open...) to study the dialog boxes the menus call up. Not only should the dialog boxes offer you many choices (including the Cancel option), but the choices should be clearly labeled so you understand them.

Finally, try to work with the program without studying the documentation. You might not get too far, but the further you get, the more intuitive the program's operation will be for

you. That means that even after you have studied the documentation, you will be able to find your way out of difficulties by searching for a menu choice, rather than tearing through the manual for help.

Now that ST software is more diverse and plentiful than in its early days, it is very important for you to be critical and selective in your choices. Put a prospective purchase through its paces on precisely the kind of work you do, whether it be for college coursework or a board of directors presentation. Steer clear from programs that are more show than go. Embrace those that do the job elegantly and productively. The more you demand of software developers, the further they will advance the state of the art of ST programming.

And *that's* something we will *all* benefit from.

SM124 Monochrome Monitor Upgrade

How to enlarge your screen size

By Jack Durre

Reprinted from Puget Sound Atari News Feb 1987

If you've used the Atari ST computers with the SM124 monochrome monitor, chances are quite good that you have come to accept the wide black border surrounding the usable area of the screen. You may have asked "why?", but probably only grumbled about it, and went back to work. If you've got the time (about 15 minutes, on the average), the tools (3 or 4, and available from most Radio Shack stores), and the nerve (very little required!), this article will explain how you can actually have a LARGER, *usable* screen (as compared to the Mac!).

First, credit where credit is due... The original information for this modification came from the April, 1986 issue of ST APPLICATIONS magazine, in an article written by Albert Lew. I am merely explaining my own methods, following the original steps as outlined in Mr. Lew's article.

That said, let's get the caveats out of the way: While I may personally consider the following modifications to be simple and straightforward, I can't write a "Hello World" program in BASIC!!! In other words, what may be "simple" for me, may be quite difficult for you. If you feel that you are NOT qualified to make these modifications, DON'T! Find and able (and willing!) friend or service technician to do it for you, or forget the whole idea and live with what you've got! If your monitor is in warranty, opening the case will, obviously, void that, and the possibility also exists that even if you wind up paying for repairs, the technician MAY refuse to work on your machine! (Chances are, however, that he's more likely to want to know more about making the mods himself!) Further, the electrical current coming from the wall plug is enough to knock you silly, or worse, and inside of the monitor case, it gets even stronger, so be aware that touching the wrong thing may well put you into an "endless loop" of your own! In other words, YOU

CAN GET KILLED! Now, if you've decided that you'd "kill to have a larger screen", then follow me!

Tools: These are really few in number, and quite simple to come by. Mr. Lew suggested some non-TV type of tools, but I'm going to stick to my guns here, and insist that you use the right tools for the job! You'll need a Phillips screwdriver, preferably a #1 size. (If you don't know the difference between a Phillips, and a slotted-head screwdriver, let me stop you right here, and suggest that you return to your programming!) You'll also need two TV "tuning tools": a hex-tool, 3/32" ("across the flats", as they say) and a flat bladed tool, 1/8" or so in blade width. Both of these tools should be made of non-conductive (plastic) material, and longer is better! (Ed. note: Radio Shack # 64-2220, \$2.99) A make-up mirror is also quite handy, particularly a free-standing one. I might also suggest a thick towel or other material to protect the face of your monitor and the top of your desk, during the time that you are moving it around. Finally, the toughest item of all...some CLEAR SPACE! You'll need to move the monitor a little, and of course, it will need to be connected to your CPU (and I DON'T recommend trying to balance it in your lap!), so plan accordingly.

Next, let's try to orient ourselves, so that you aren't amputating the screen, while I am talking about the power cord! The "front" of the monitor is the viewing screen, the "rear" is where the power cord, and CPU/monitor connector exit the case. Since we're going to turn the entire thing around, so that the screen is facing AWAY from us, "right" will now be the side where the speaker is located, and "left" obviously (it IS, isn't it?) will be opposite that, where the control knobs are. "Top" will still be in the usual location, and if you haven't already figured out where the bottom is, it's time for another cup of coffee!!!

Ready? Here we go!

Boot your system, using either the desktop, with one or more windows opened, or call up a text file. The ideal situation is to have text reaching all four corners of the screen, so that you will be able to compare from one area to another.

Now, unplug the monitor's power cord from the socket in the cabinet, and turn the monitor around, so that the rear of the case is facing you. Place the towel or padding on the desktop in front of the monitor, and tip the entire unit up onto the glass face (carefully!). Now, using the Phillips screwdriver, remove the five screws holding the cabinet together. (Two on the bottom, one on each side, about 3/4s of the way up, and one just above the power cable socket.) Once these have been removed, put them somewhere safely out of the way, and don't worry about mixing them up, they're all the same size. Now gently lift straight upwards on the rear sides of the case, and it should begin to lift away...CAREFUL! You have yet to disconnect the speaker wires, and there's not too much extra wire here. See it? Carefully reach down to the connector where it joins with the mother board, and pull it straight away from the board, disconnecting it. Don't be too concerned about the orientation of the plug, as it *will* work in either direction. Once you've done this, continue to lift the rear section of the cabinet away, feeding the CPU/Monitor cable through the opening as necessary.

Set the cabinet out of the way (And don't STEP ON IT!), and proceed with the REAL modifications! Tip the monitor back down to its bottom, and arrange the mirror so that you can see the screen while working at the rear of the unit. Re-connect the power cord, and turn on the monitor, being careful NOT to stick your fingers inside the wrong areas!

Grab your plastic flat-blade tool, and start looking along the right side of the mother board (remember now, we're looking from the rear of the set!). Near the front of the board, neatly tucked between the picture tube, or CRT, and a vertical metal heatsink/power board, is a row of 3 white adjustable controls, or potentiometers, about 1/2" in diameter, labelled "VLINE", "VSIZE", and "VHOLD". We're interested in "VSIZE", which is the middle control "pot". (NOW you know why I suggested a LONG tuning tool!) Gently slip the tool into the slotted head of the pot, and while watching the screen in the mirror (you DID boot up the system, didn't you?), begin to turn the tool slightly (try not to apply too much pressure to the pot, as that CAN effect the setting). The top and bottom of the screen will begin to move, together or apart! Expand the screen to within approximately 1/2" - 3/4" of the top and bottom of the "bezel", or plastic frame on the front of the monitor. (Too close to the bezel, and you'll find that you have to be EXACTLY in front of the screen, or miss some of the information!)

See? Feeling more confident already, aren't we?

Moving right along, we will now swap our tuning tools, opting for the hex-shaped one. Looking near the left rear corner of the mother board, close to the point where the power supply cord socket is located, you will see a plastic shaft with a slot in it, sticking straight up from the board, and just slightly ahead of that, a strange-looking device, composed of a small-diameter tube, with what appears to be a couple of "bobbins" of wire on it. Inside of that tube, there is a small, somewhat-fragile core of graphite, which WILL break, if mistreated, so act accordingly! Gently lower your hex-tool into this tube, and you will feel it slide home into the core. (Again, don't press down on the core.) By turning this core in a clockwise direction, and watching the mirror, you will see the screen shrink slightly first, and then grow WIDER!!! (Now we're really starting to cook!) Remember to leave about 1/2" - 3/4" border, to avoid having the edges hidden by the bezel.

What's that you say? Your picture got larger, but it looks off-center? Well, cheer up, bunkie, 'cause we're gonna fix THAT right now!

See that big chunk of glass up front? Well, it has a "neck" on it, and the back end is pointing directly at us, with some strange looking electronic stuff along the way. At the very back of the tube are some electrical connections, but we're not worried about them...what we're after are the two magnets that sorta look like "Q"s around the neck, about 1-2 inches forward of the connections. See 'em? They're dark grey or black, probably, and have a little "ear" sticking up away from the tube, so that you can gently push

them around until you get the picture centered on the face of the CRT. Don't worry about touching THEM...just try to keep from resting your hands on any "hot" contacts! This may take a little time to screw up your courage, but once you've got the picture fairly well centered, you may need to go back and re-adjust the VSIZE or Horizontal size, as all these things are interrelated. Next, we're gonna make the picture sharp again, in case you're worried that you've just lost that beautiful screen that you love so much!

Remember the slotted plastic shaft at the left rear of the mother board? Well, THAT's the "FOCUS" control, and if you'll again resort to the flat-bladed tuning tool, you can use that control to find the best compromise for YOUR taste! Atari chose to go for a tack-sharp center screen, and let the corners be a little softer in focus. You can do the same, or go for sharp corners and let the center be a little soft, or shoot for some compromise. (Hey! Life's a compromise!) Once you've done this step, you can actually turn the set around, and admire your handiwork!

If you see some other minor fine-tuning that you want to go back and do, feel free. This is now a CUSTOM-TUNED monitor of the first rank, and you will have even more pride in your ST than before!

To reassemble the cabinet, turn off the power, slide the CPU/Monitor cable through the rear cabinet section, and with your third hand...yep, gotta remember to reconnect the speaker leads! There IS a sort of indicator as to which way the plug was originally connected...One side has two slots, and the other only one, but the speaker WILL work even if this connector is reversed. Incidentally, if you want to go one step further, Mr. Lew suggests the addition of an Audio-Out connector from this lead. Your choice.

Finally, having reassembled the cabinet, re-connect the monitor to the CPU, boot the system up, and check out the BIG PICTURE!!! If you have any problems, check first, to see that power is reaching your set, and that the green LED indicator is on. If not, you may not have reconnected the power cord securely, or possibly a fuse has blown or been broken (fuses are located on the vertical power board at the side, near the VSIZE pot, and easily replaced from Radio Shack).

Enjoy your "new" monitor, and if you have any questions on this modification, you can reach me here, on CompuServe, at PPN 75046,476. See ya! [Jack]

ST MONITOR SWITCH

article by Lloyd Nicholas

design by George Ledoux

Reprinted from DATALINK Mar. 87

How many of you have both monochrome and color monitors and must keep unplugging them and plugging in the other one each time that you

change from low or medium resolution to high resolution and back again? How many of you would like a way to do this without ever unplugging your monitor again? If this sounds like something that would be of use and you can solder a little, then this is an easy project at very little cost (as compared to the \$50.00 box now sold) that you can do yourself.

The materials needed for this project are:

- 2 - Monitor sockets (just like the ones that you plug your monitor into now)
- 1 - Monitor plug (the same as on your monitor cables)
- 1 - Small box and IC board (I used a Radio Shack box #270-283 which comes with an IC board for mounting your sockets)
- 1 - Short length of cable with about 10 connectors
- 1 - Single pole single throw switch

The sockets and plug can be obtained at 3E SOFTWARE & SYSTEMS in Hayward or B&C COMPUTER in Santa Clara. The switch and wire can be obtained locally.

If you look at the diagram, you will see that the wiring is pretty much straight forward. You are looking at the sockets from the back side and the wires are coming from the cable. The easy way to wire this is to first mount the sockets on your board. The sockets have a strange pin arrangement and do not fit the holes. You should be able to use one row to hold the socket to the board, but will need to cut one large hole for the rest of the pins. The two pins that come down at the face of the socket are for mounting the socket only.

The next step is to wire the plug. You can either solder directly to the pins on the plug or find some small connectors as I did. The arrangement on the wires and colors is not important as long as you use the pin numbers listed in the diagram. Once the cable is wired to the plug, simply plug it into one of the sockets and wire that socket to match. The advantage of this method is that you can check continuity directly from the socket and match it to the wire. Remember that you must have one socket as the monochrome and one as the color. Once the sockets are wired to the plug, you should have at least one wire remaining which will be #4. You need to connect a wire to the monochrome socket that is several inches long. This wire and the one from the plug are the monochrome detect leads. When these wires are connected, the system reboots to monochrome. When these wires are broken, the system reboots to color. You need to connect the switch to these wires and when that is done, so are you.

At this time, PLEASE go back and check and make sure all of your connections and make sure that they are right and none of them shorted. When you are satisfied with your work, you can either mount your board into your box, or try it

first. I will not give instructions for mounting into a box because each person may have a different box or method of mounting that suits them best.

If all has went well, then you are ready to try out your new box. With everything off, plug the box into the computer and plug the monitors into the proper sockets. If you get them backwards, you will boot to color but won't know it because the color leads are not in the mono socket. Now turn on both monitors and make sure that they are about a foot apart so we won't get interference on the mono monitor. Now boot a disk and see which monitor comes up. If the color comes up, then just flip your switch and the system will reboot to monochrome. If your box does not work, then go back and check your connections again or have someone else check it out for you. I have been using this mod for almost a month with no ill effects. I do not turn off my system when I reboot, but that does not mean that you should follow my example. I take no responsibility for any damage to equipment of egos for this project. If you undertake this project, I wish you luck and if you run into trouble, I will be happy to help.

Good Luck!

Editors note: Upon reading this article, and since I was extremely tired of switching cables from my monitors, I decided to build this switch. I ordered the sockets and plug from 3E Software Sales 931 A Street, Hayward, CA 94541 (415)537-3637 which cost \$23.85 with postage. I found a 10 conductor cable from a place here in Phoenix. The address is Computer Cable Specialists, 2432 E. Indian School Road, and only cost a few cents a foot. For the switch, I used Radio Shack #275-624 (\$1.59). I also bought a small bag of various sized grommets and used one for the cable entering the box. The article mentions using connectors with the plug. After finding the very small connectors and meticulously soldering them on to the cable wires, I was disappointed to learn that there is not room for them inside the plug that I ordered. So, after all that work, I cut them off and soldered each wire directly to each pin in the back of the plug. The article failed to mention the number of conductors needed in the cable. The supplied wiring diagram was confusing and worse was missing the connections to the audio speakers. If I had followed the schematic, my monitor speakers would not work. In reprinting this article, I have redrawn the original schematic to reflect the inclusion of the sound wires. Also missing was any indication as to how this finished beast ought to look. So I have also supplied a picture of how mine ended up looking. Yours may vary.

This was my first attempt at doing anything like this, but I was bound and determined to do it. It turned out perfectly, in spite of my ten thumbs and the seemingly impossible task of soldering a dozen little connections a hairs breadth apart with a soldering gun the size of a baseball bat! No more pulling out (and possibly damaging) the monitor

plugs every time I wanted to change monitors. All in all the project ended up costing about thirty dollars and several frustrating hours, but it was worth it.

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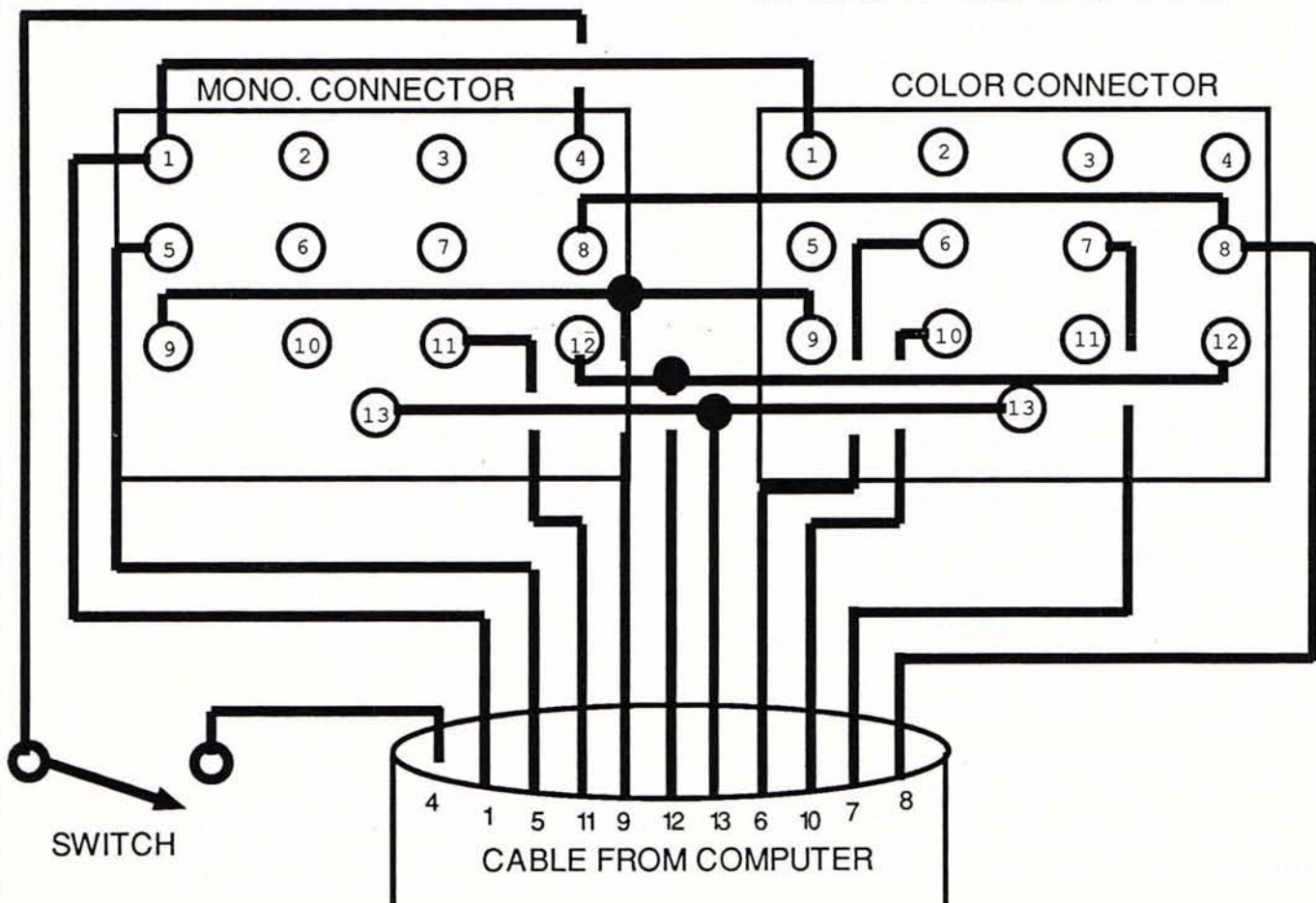
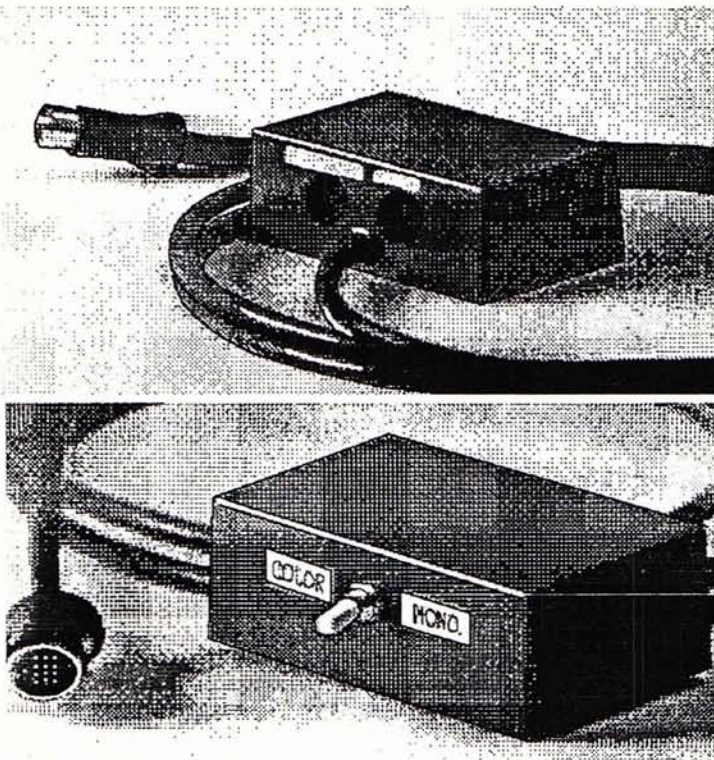
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